Primary Production Measurements in the Bay of Fundy from March 1979 to November 1980

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ABSTRACT

PROUSE, N.J. 1983. Primary production measurements in the Bay of Fundy from March 1979 to November 1980. Can. Tech. Rep. Fish. Aquat. Sci. No. 1167: 86 p.

Primary production was measured using the radiocarbon method on four cruises during different seasons from 1979 to 1980 in the Bay of Fundy. Both light saturation experiments and deck incubations were done with sampling concentrated in the turbid upper reaches. Additional light saturation experiments were made at Pecks Cove, New Brunswick. The raw data are presented along with integral production and the derived light saturation parameters.

RESUME

PROUSE, N.J. 1983. Primary production measurements in the Bay of Fundy from March 1979 to November 1980. Can. Tech. Rep. Fish. Aquat. Sci. No. 1167: 86 p.

La production primaire dans la Baie de Fundy a été measurée à l'aide de la méthode du carbone radioactif au cours de quatre croisières effectuées pendant des saisons différentes de 1979 à 1980. On a procédé à des expériences de saturation lumineuse et à des incubations sur le pont, l'échantillionnage ayant été concentré dans des plans d'eau turbides de la côte nord de la Baie. D'autres expériences de saturation lumineuse ont été réalisées à Pecks Cove, Nouveau-Brunswick. Les données brutes sont présentées ainsi que la production intégrale et les paramètres de saturation lumineuse dérivés de ces expériences.

INTRODUCTION

There has been continuing interest in the Bay of Fundy due to the recognition of the potential for harnassing tidal power. However, until recently, few biological observations have been made in the upper regions where tidal power would most likely be developed; these areas are typified by extremely large tidal amplitudes (averaging 10-12 m), strong tidal currents and very high turbidity which can decrease the photic zone to only 1-2 m or less.

Since 1977, our laboratory has undertaken several studies in the Bay of Fundy especially in these upper regions. A program of field and laboratory work involving cruises in the Bay and sampling at Pecks Cove, New Brunswick, was initiated to assess the role of phytoplankton and primary production. Results of *in situ* primary production measurements and related benthic production at Pecks Cove has been discussed elsewhere (Hargrave et al., 1983). This report presents the data from the cruises as well as light saturation experiments performed at Pecks Cove during 1979-80. These values have been used for estimates of annual phytoplankton production in the Bay of Fundy (Prouse et al., in prep.).

SAMPLING

Primary production was measured at Pecks Cove during 1980 and on four cruises throughout the Bay of Fundy in the spring, summer and fall of 1979 and the winter of 1980. Water was collected by 5 L NISKIN bottles from 1 m at various stations along the cruise track (Fig. 1) for onboard light saturation experiments. Deck incubations were also performed using water collected at depths representing 100, 20, 12, and 1% penetration of photosynthetically active radiation. These depths were determined by

lowering a LI-COR underwater quantum sensor (LI-1925B) and measuring photosynthetically active radiation on a LI-185B quantum meter. Water for deck incubations was taken only from 0.5 m in the upper Bay of Fundy where turbidity and turbulence are extremely high and light penetration limited to the upper 2 m. Surface water was also taken during helicopter surveys or field trips to Pecks Cove in 1980 for light saturation experiments in the laboratory.

METHODS

Light Saturation Experiments

Primary production was measured using the radioactive carbon method outlined by Strickland and Parsons (1972). Seawater (2-3L) was placed into a large flask to which was added sodium bicarbonate C^{14} solution prefiltered through 0.45 µm Millipore filters; 100 ml aliquots were placed into 125 ml clear glass bottles to give a final activity of approximately 5 µC/bottle. Exact activity was determined by subsampling the stock solution. Four additional covered bottles, two of which were poisoned with 0.2 mg mercuric chloride, were included for determination of total and chemical dark assimulation. The difference between the two represents biological dark uptake such as chemosynthetic production by bacteria. These are included because dark assimilation is often significant when compared to light fixation (Taguchi and Platt, 1977; Petersen, 1979) and could be even more important in water with high turbidity. Bottles were arranged along a running seawater incubator at varying distances away from a 150 watt light source (GE clear projector floodlight). Water collected at Pecks Cove was treated similarly but under much stronger illumination (THORN 2000 W haline lamp). Contents of bottles were immediately filtered after four hours

exposure onto 0.25 cm diameter 0.45 µm membrane filters and rinsed once with 5-10 ml filtered seawater collected at the sampling site. Filters were placed directly into scintillation vials containing 15 ml Aquasol-2 (New England Nuclear) and counted on a Beckman LS-3133T liquid scintillation counter.

Deck Incubations

Seawater (0.5 L) from each depth was innoculated with 25 µC of 0.45 prefiltered sodium bicarbonate C^{14} solution; 100 ml aliquots were then placed into 3 light and 2 dark 125 ml glass bottles (one dark bottle poisoned with 0.2 mg mercuric chloride) to give an approximate activity of 5 µC/bottle. These sets of bottles were placed into plexiglass deck incubators which were screened to simulate the irradiance of the appropriate depth of origin. Temperature was maintained close to *in situ* conditions by running seawater and incubations were carried out between 1000-1400 hours when possible. Upon completion, contents of bottles were immediately filtered and treated as in the light saturation experiments. Integral production was calculated to the depth of 1% light transmission.

Light Measurements

Photosynthetically active radiation (PAR) was measured in each compartment along the light saturation incubators with a LI-COR model LI-185B quantum meter and LI-192SB underwater quantum sensor. The same instrument was used to determine the 100, 25, 12, and 1% depth of light penetration in the water column for the deck incubators.

Total solar radiation was measured (as g-cal cm^{-2} min^{-1}) on a Belfort pyrheliograph placed on deck. Alternately, solar radiation values

recorded by Environment Canada, Kentville, Nova Scotia were used.

Chlorophyll a

For each experiment 0.2-0.5 L of seawater was filtered through a 0.45 μ Millipore filter and placed into 10 ml 85% acetone solution containing a few drops of $Mg\ Co_3$ solution. Samples were mixed in a Vortex mixer and stored at 5°C for at least 18 hours before measuring chlorophyll a on a Turner fluorometer following the method of Yentsch and Menzel (1963) as modified by Holm Hansen et al. (1965).

SPM

Total amount of suspended particulate material was determined by filtering 0.1-0.5 L seawater onto 0.45 micron Nucleopore filters of a diameter of 47 mm. Preweighed glass fibre filters (WHATMAN 4.25 cm GF/A) were used for samples taken at Pecks Cove. Filters were dried 24-48 hours at 60°C and weighed to give total amount of suspended dry matter expressed as $mg\ L^{-1}$.

LIGHT SATURATION PARAMETERS

After subtracting light from dark production, net production was then normalized to unit chlorophyll a and plotted against light intensity. Two parameters were calculated when possible (Platt et al., 1975; Jassby and Platt, 1976):

(1) the initial slope, α, of the linear portion of the plot.

(2) the assimilation number, P_m^B, by a non-linear least squares fit of the function $P^B = P_m^B \tanh (\alpha I/P_m^B) - R^B$ to the entire data set for a given sample.

RESULTS

Results of the deck incubations derived from the raw data are summarized for each cruise (and season) in Fig. 2-5. In some light saturation experiments on the cruises, high amounts of suspended matter lowered the light intensity along the incubator to a point where light or production could not be measured except in bottles closest to the lamp; the limited amount of data in these experiments precludes determination of light saturation parameters. There was also settling of suspended material in the bottles during both deck incubations and light saturation experiments.

ACKNOWLEDGEMENTS

I thank the captain and crew of the CSS Dawson for the memorable and productive cruises to the Bay of Fundy and E. MacDormand, J. Walker, and D. Roberts, among many others, who kindly helped with the field work even under muddy conditions. I am also grateful to D. Rudderham for calculating the light saturation parameters and to C. Simmons for patiently typing the tables. The support, guidance and encouragement of Drs. D. Gordon and B. Hargrave made this study possible and is greatly appreciated. Finally I wish to thank Mia for the hot sauce and my parents for tolerating everything from praying mantis to flying squirrels.

REFERENCES

Hargrave, B.T., N.J. Prouse, G.A. Phillips, and P.A. Neame. 1983. Primary production and respiration in pelagic and benthic communities at two intertidal sites in the Upper Bay of Fundy. Can. J. Fish Aquat. Sci., 40 (Suppl. 1): 229-243.

Holm-Hansen, O., C.J. Lorenzen, R.W. Holmes, and J.D.H. Strickland. 1965. Fluorometric determination of chlorophyll. J. Cons. int. Explor. Mer., 30: 3-15.

Jassby, A.D. and T. Platt. 1976. Mathematical formulation of the relationship between photosynthesis and light for phytoplankton. Limnol. Oceanogr. 21: 540-547.

Petersen, G.H. 1979. On the analysis of dark fixation in primary production computations. J. Cons. int. Explor. Mer, 38 (3): 326-330.

Platt, T., K. Denman, and A.D. Jassby. 1975. The mathematical representation and prediction of phytoplankton productivity. Fish. Mar. Serv. Res. Dev. Tech. Rept. No. 523: v + 110 p. + 3 tables + 8 Figures.

Prouse, N.J., D.C. Gordon, Jr., B.T. Hargrave, C.J. Bird, J. McLachlan, J.S.S. Lakshminarayana, J. Sita Devi, and M.L.H. Thomas. 1983. Primary production: Organic matter supply to ecosystems in the Bay of Fundy, in prep.

Taguchi, S., and T. Platt. 1977. Assimilation of $^{14}CO_2$ in the dark compared to phytoplankton production in a small coastal inlet. Coastal Marine Sci. 5: 679-684.

Yentsch, S.C., and D.W. Menzel. 1963. A method for the determination of phytoplankton chlorophyll and phaeophytin by fluorescence. Deep-Sea Res. 10: 221-231.

FIGURE CAPTIONS

Fig. 1. Location of sampling stations in the Bay of Fundy during 1979-1980.

Fig. 2. Net primary production measured in deck incubators at various sampling stations in the Bay of Fundy during CSS Dawson cruise 79-004 (March 29 - April 4, 1979).

Fig. 3. Net primary production measured in deck incubators at various sampling stations in the Bay of Fundy during CSS Dawson cruise 79-023 (Aug 11-19, 1979).

Fig. 4. Net primary production measured in deck incubators at various sampling stations in the Bay of Fundy during CSS Dawson cruise 79-034 (Oct 25-Nov 10, 1979).

Fig. 5. Net primary production measured in deck incubators at various sampling stations in the Bay of Fundy during CSS Dawson cruise 80-003 (Feb 15-22, 1980).

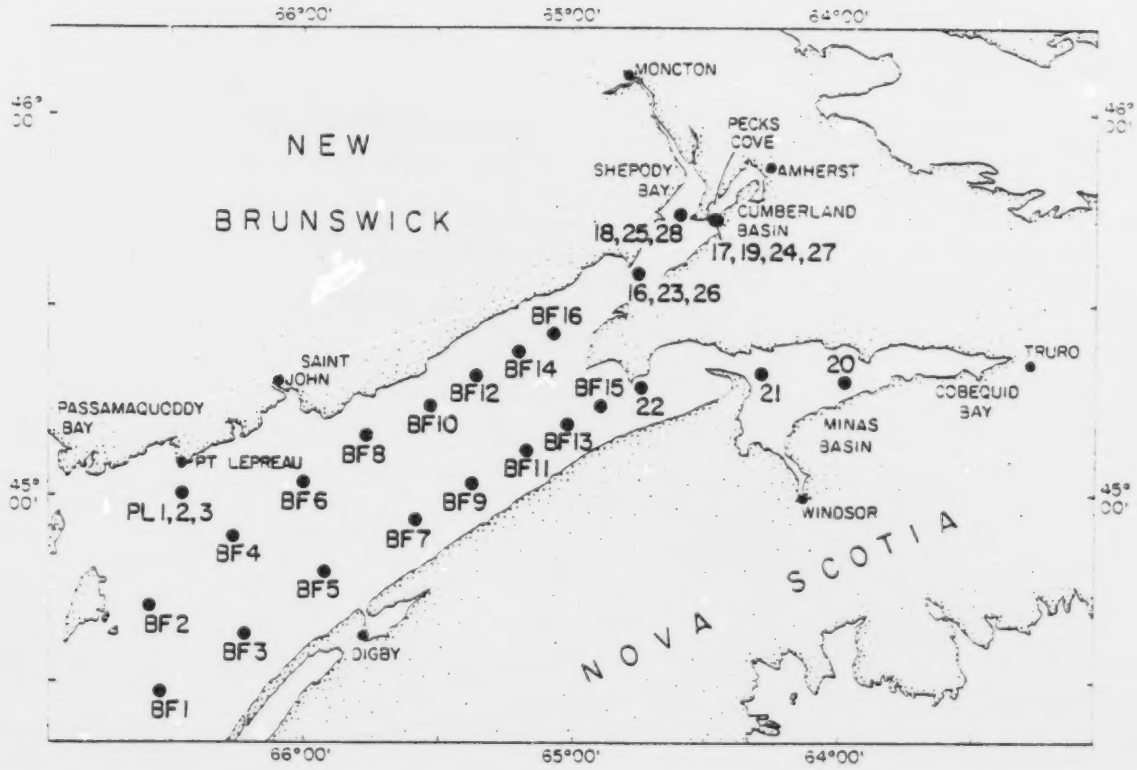

FIG. 1 Location of sampling stations in the Bay of Fundy during 1979-1980.

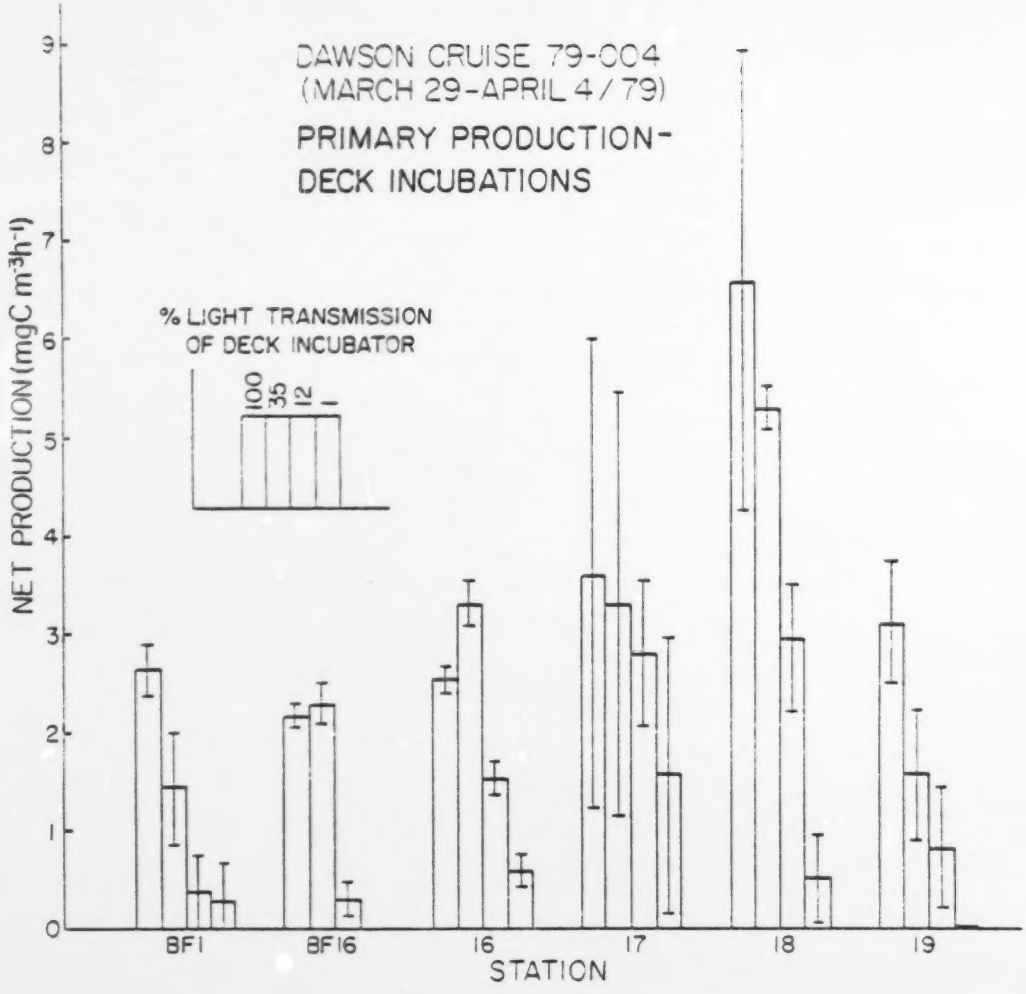

FIG. 2 Net primary production measured in deck incubators at various sampling stations in the Bay of Fundy during CSS Dawson cruise 79-004 (March 29 - April 4, 1979).

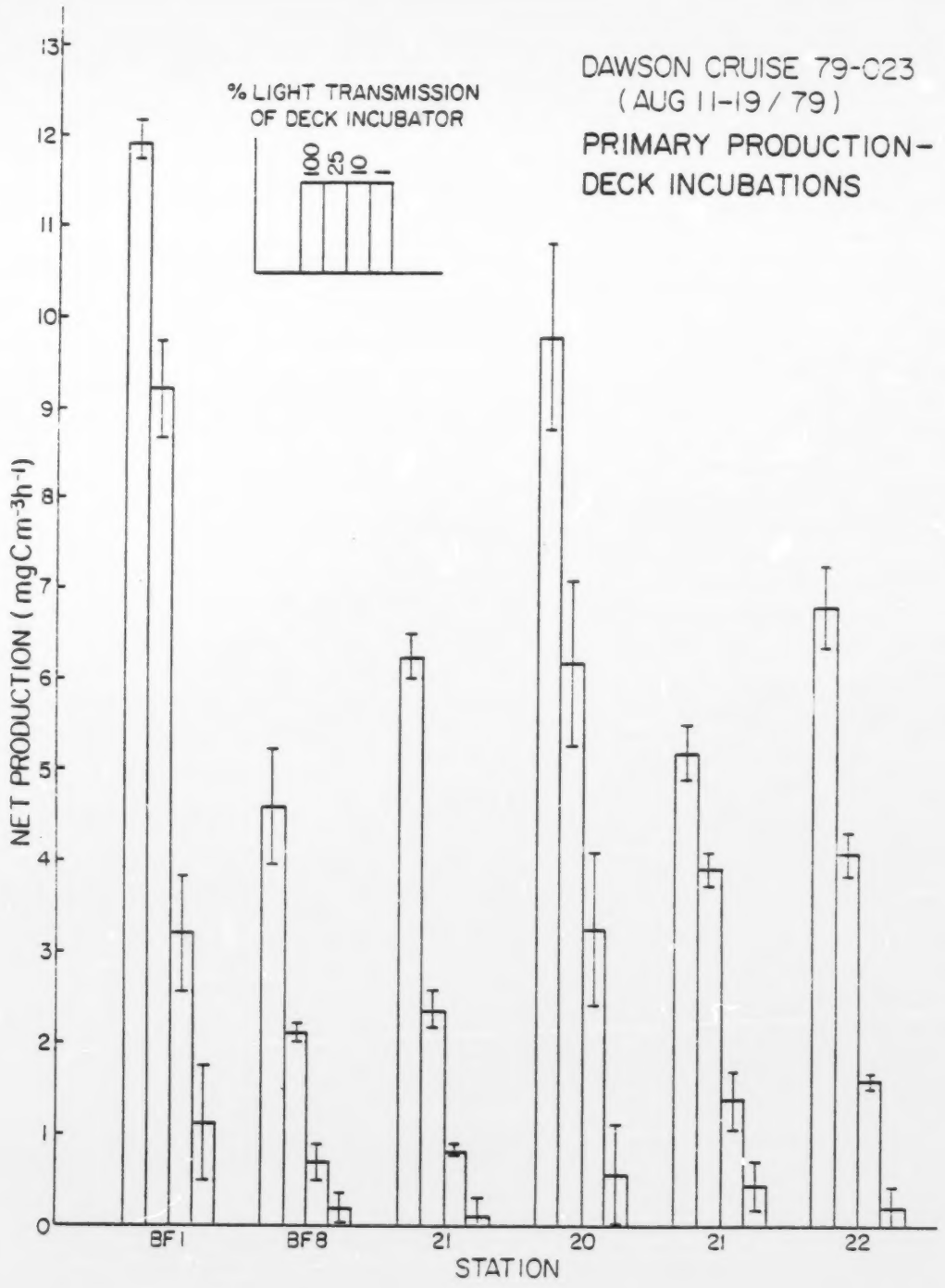

FIG. 3 Net primary production measured in deck incubators at various sampling stations in the Bay of Fundy during CSS Dawson cruise 79-023 (Aug 11-19, 1979).

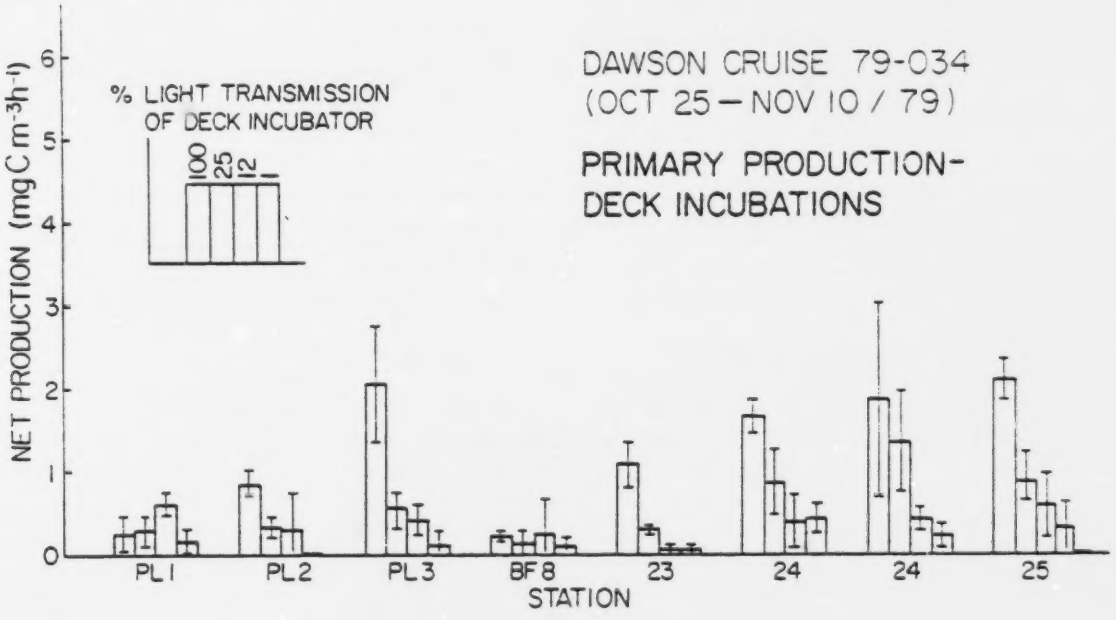

FIG. 4 Net primary production measured in deck incubators at various sampling stations in the Bay of Fundy during CSS Dawson cruise 79-034 (Oct 25-Nov 10, 1979).

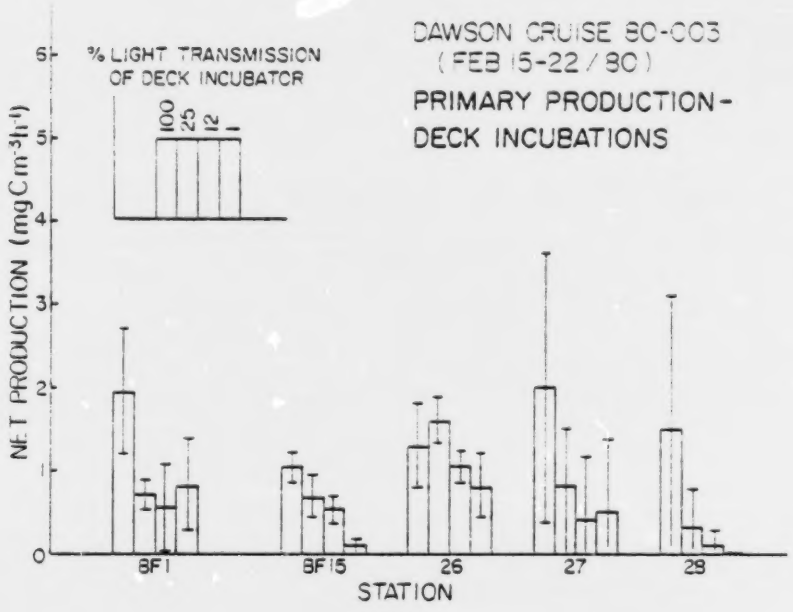

FIG. 5 Net primary production measured in deck incubators at various sampling stations in the Bay of Fundy during CSS Dawson cruise 80-003 (Feb 15-22, 1980).

DATA TABLES - DECK INCUBATIONS AND NET INTEGRAL PRODUCTION

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 29/03/79
Station No: BF 1
Surface Temperature, ^{o}C: 1-2
Incubation Temperature, ^{o}C: 4-6
Incubation Hours: 1100-1500
Incident Radiation During Incubation, megajoules m^{-2}: 10.417
Total Daily Incident Radiation, megajoules m^{-2}: 19.805
Suspended Dry Matter, mg l^{-1}: 2.4

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	0.40	2.61	(0.18)	2.06	(1.05)	1.82	(0.75)
35	6	0.45	1.42	(1.04)				
12	8	0.42	0.31	(0.31)				
1	12	0.45	0.27	(0.46)				

Integral Net Primary Production, mg C m^{-2} h^{-1}: 15.0
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 114.1

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 30/03/79
Station No: BF 16
Surface Temperature, ^{o}C: 1-2
Incubation Temperature, ^{o}C: 4-6
Incubation Hours: 0930-1330
Incident Radiation During Incubation, megajoules m^{-2}: 2.420
Total Daily Incident Radiation, megajoules m^{-2}: 4.702
Suspended Dry Matter, mg l^{-1}: 29.7

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	0.50	2.17	(0.12)	1.08	(0.13)	0.85	(0.19)
35	1.5	0.45	2.25	(0.25)				
12	2.5	0.45	0.30	(0.22)				
1	4.0	0 56	0					

Integral Net Primary Production, mg C m^{-2} h^{-1}: 4.8
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 37.3

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 31/03/79

Station No: 16

Surface Temperature, ^{o}C: 2-3

Incubation Temperature, ^{o}C: 4-6

Incubation Hours: 1045-1445

Incident Radiation During Incubation, megajoules m^{-2}: 1.553

Total Daily Incident Radiation, megajoules m^{-2}: 3.333

Suspended Dry Matter, mg l^{-1}: 24.7

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	0.64	2.53	(0.12)	1.10	(0.32)	1.07	(0.37)
35	1.0	0.52	3.29	(0.25)				
12	1.5	0.22	1.52	(0.16)				
1	2.5	0.37	0.57	(0.17)				

Integral Net Primary Production, mg C m^{-2} h^{-1}: 5.16

Integral Daily Primary Production, mg C m^{-2} day^{-1}: 44.3

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 01/04/79
Station No: 17
Surface Temperature, ^{o}C: 1-2
Incubation Temperature, ^{o}C: 4-6
Incubation Hours: 1030-1430
Incident Radiation During Incubation, megajoules m^{-2}: 2.310
Total Daily Incident Radiation, megajoules m^{-2}: 4.743
Suspended Dry Matter, mg l^{-1}: 174.3

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	0.42	3.59	(2.41)	5.36	(2.95)	4.70	(4.31)
35	<1		3.31	(1.98)				
12	<1		2.78	(0.78)				
1	<1		1.57	(1.32)				

Integral Net Primary Production, mg C m^{-2} h^{-1}: 2.71
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 2.22

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 02/04/79
Station No: 18
Surface Temperature, ^{o}C: 1.5
Incubation Temperature, ^{o}C: 4-6
Incubation Hours: 1015-1415
Incident Radiation During Incubation, megajoules m^{-2}: 10.640
Total Daily Incident Radiation, megajoules m^{-2}: 20.202
Suspended Dry Matter, mg l^{-1}: 72.5

Percent Light Transmission	Corresponding Depth m	Chlorophyll *a* $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)	Dark Fixation mg C m^{-3} h^{-1} (standard deviation)	Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)
100	0	1.77	6.62 (2.37)	4.37 (0.91)	4.38 (2.67)
35	<1		5.27 (0.26)		
12	<1		2.94 (0.52)		
1	<1		0.53 (0.47)		

Integral Net Primary Production, mg C m^{-2} h^{-1}: ~3.38
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 25.7

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 03/04/79
Station No: 19
Surface Temperature, ^{o}C: 2.0
Incubation Temperature, ^{o}C: 4-6
Incubation Hours: 1000-1400
Incident Radiation During Incubation, megajoules m^{-2}: 1.833
Total Daily Incident Radiation, megajoules m^{-2}: 3.107
Suspended Dry Matter, mg l^{-1}: 72.5

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	2.15	3.08	(0.82)	4.23	(1.11)	3.69	(1.51)
35	<1		1.57	(0.84)				
12	<1		0.78	(0.82)				
1	<1		0					

Integral Net Primary Production, mg C m^{-2} h^{-1}: 1.07
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 7.3

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 13/08/79
Station No: BF 1
Surface Temperature, ^{o}C: 11.0
Incubation Temperature, ^{o}C: 15.0
Incubation Hours: 1430-1830
Incident Radiation During Incubation, megajoules m^{-2}: 3.272
Total Daily Incident Radiation, megajoules m^{-2}: 10.324
Suspended Dry Matter, mg l^{-1}: 1.7

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)
100	0	3.68	11.90	(0.29)	1.44	(0.62)	
25	4		9.17	(0.59)			
10	7		3.19	(0.67)			
1	14		1.11	(0.67)			

Integral Net Primary Production, mg C m^{-2} h^{-1}: 75.7
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 955.4

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 12/08/79
Station No: BF 8
Surface Temperature, ^{o}C: 11.3
Incubation Temperature, ^{o}C: 15.0
Incubation Hours: 0915-1315
Incident Radiation During Incubation, megajoules m^{-2}: 1.927
Total Daily Incident Radiation, megajoules m^{-2}: 4.019
Suspended Dry Matter, mg l^{-1}: 1.0

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)
100	0	1.04	4.55	(0.63)	1.17	(0.13)	
25	4		2.08	(0.07)			
10	8		0.68	(0.13)			
1	14		0.16	(0.14)			

Integral Net Primary Production, mg C m^{-2} h^{-1}: 21.3
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 177.7

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 13/08/79

Station No: 21

Surface Temperature, ^{o}C: 14.2

Incubation Temperature, ^{o}C: 17.0

Incubation Hours: 0930-1330

Incident Radiation During Incubation, megajoules m^{-2}: 3.715

Total Daily Incident Radiation, megajoules m^{-2}: 8.371

Suspended Dry Matter, mg l^{-1}: 9.0

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)
100	0	1.11	6.24	(0.26)	1.40	(0.30)	
25	2		2.36	(0.21)			
10	4		0.80	(0.06)			
1	7		0.12	(0.21)			

Integral Net Primary Production, mg C m^{-2} h^{-1}: 13.1

Integral Daily Primary Production, mg C m^{-2} day^{-1}: 118.1

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 14/08/79
Station No: 20
Surface Temperature, ^{o}C: 17.0
Incubation Temperature, ^{o}C: 18.0
Incubation Hours: 1000-1400
Incident Radiation During Incubation, megajoules m^{-2}: 8.281
Total Daily Incident Radiation, megajoules m^{-2}: 12.940
Suspended Dry Matter, mg l^{-1}: 16.4

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)	Dark Fixation mg C m^{-3} h^{-1} (standard deviation)	Dark Fixation (poisoned) mg.C m^{-3} h^{-1} (standard deviation)
100	0	1.46	9.76 (1.11)	1.60 (0.44)	
25	1		6.17 (0.88)		
10	2		3.23 (0.85)		
1	4		0.56 (0.66)		

Integral Net Primary Production, mg C m^{-2} h^{-1}: 16.5
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 103.1

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 15/08/79

Station No: 21

Surface Temperature, ^{o}C: 16

Incubation Temperature, ^{o}C: 18

Incubation Hours: 0930-1330

Incident Radiation During Incubation, megajoules m^{-2}: 8.090

Total Daily Incident Radiation, megajoules m^{-2}: 20.281

Suspended Dry Matter, mg l^{-1}: 3.8

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)
100	0	0.82	5.19	(0.33)	1.15	(0.40)	
25	2		2.90	(0.14)			
10	4		1.39	(0.21)			
1	7		0.43	(0.24)			

Integral Net Primary Production, mg C m^{-2} h^{-1}: 17.11

Integral Daily Primary Production, mg C m^{-2} day^{-1}: 171.6

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 16/08/79
Station No: 22
Surface Temperature, ^{o}C: 14.5
Incubation Temperature, ^{o}C: 16.0
Incubation Hours: 0930-1330
Incident Radiation During Incubation, megajoules m^{-2}: 11.539
Total Daily Incident Radiation, megajoules m^{-2}: 19.898
Suspended Dry Matter, mg l^{-1}: 3.8

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)
100	0	1.00	6.82	(0.4)	1.06	(0.22)	
25	2		4.06	(0.18)			
10	4		1.56	(0.06)			
1	7		0.19	(0.23)			

Integral Net Primary Production, mg C m^{-2} h^{-1}: 19.1
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 131.8

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 25/10/79
Station No: PL 1
Surface Temperature, ^{o}C: 11.2^{o}C
Incubation Temperature, ^{o}C: 15.0^{o}C
Incubation Hours: 1015-1415
Incident Radiation During Incubation, megajoules m^{-2}: 2.923
Total Daily Incident Radiation, megajoules m^{-2}: 4.679
Suspended Dry Matter, mg l^{-1}:

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	0.93	0.25	(0.23)	0.71	(0.05)	0.68	0.17
25	3		0.29	(0.15)				
12	4.5	1.35	0.60	(0.13)				
1	10		0.14	(0.13)				

Integral Net Primary Production, mg C m^{-2} h^{-1}: 3.51
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 2.56

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 26/10/79
Station No: PL 2
Surface Temperature, ^{o}C: 11.2
Incubation Temperature, ^{o}C: 15.0
Incubation Hours: 0900-1300
Incident Radiation During Incubation, megajoules m^{-2}: 2.585
Total Daily Incident Radiation, megajoules m^{-2}: 5.550
Suspended Dry Matter, mg l^{-1}:

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	0.30	0.82	(0.19)	0.78	(0.11)	1.00	(0.60)
25	3		0.32	(0.11)				
12	4.5	0.80	0.30	(0.41)				
1	10		0					

Integral Net Primary Production, mg C m^{-2} h^{-1}: 3.00
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 25.8

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 27/10/79

Station No: PL 3

Surface Temperature, ^{o}C: 11.2^{o}C

Incubation Temperature, ^{o}C: 15.0^{o}C

Incubation Hours: 0900-1300

Incident Radiation During Incubation, megajoules m^{-2}: 2.882

Total Daily Incident Radiation, megajoules m^{-2}: 5.915

Suspended Dry Matter, mg l^{-1}: -

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	0.50	2.04	(0.82)	0.61	(0.32)	0.70	(0.06)
25	3		0.56	(0.14)				
12	4.5	0.48	0.43	(0.14)				
1	10		0.11	(0.19)				

Integral Net Primary Production, mg C m^{-2} h^{-1}: 6.1

Integral Daily Primary Production, mg C m^{-2} day^{-1}: 50.1

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 29/10/79
Station No: BF 8
Surface Temperature, ^{o}C: 11.3
Incubation Temperature, ^{o}C: 15.0
Incubation Hours: 0900-1300
Incident Radiation During Incubation, megajoules m^{-2}: 0.407
Total Daily Incident Radiation, megajoules m^{-2}: 0.910
Suspended Dry Matter, mg l^{-1}: 0.5

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	0.66	0.22	(0.05)	0.78	(0.32)	1.05	(0.81)
25	3		0.11	(0.15)				
12	4.5	0.65	0.23	(0.40)				
1	10		0.06	(0.09)				

Integral Net Primary Production, mg C m^{-2} h^{-1}: 1.55
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 13.9

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 30/10/79

Station No: 23

Surface Temperature, ^{o}C: 11.5

Incubation Temperature, ^{o}C: 15.0

Incubation Hours: 0900-1300

Incident Radiation During Incubation, megajoules m^{-2}: 1.386

Total Daily Incident Radiation, megajoules m^{-2}: 3.159

Suspended Dry Matter, mg l^{-1}:

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	0.72	1.08	(0.20)	0.76	(0.13)	0.69	(0.18)
25	<1		0.27	(0.05)				
12	<1		0.04	(0.05)				
1	<1		0.03	(0.05)				

Integral Net Primary Production, mg C m^{-2} h^{-1}: 0.4

Integral Daily Primary Production, mg C m^{-2} day^{-1}: 3.65

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 31/10/79
Station No: 24
Surface Temperature, ^{o}C: 10.8
Incubation Temperature, ^{o}C: 15.0
Incubation Hours: 0900-1300
Incident Radiation During Incubation, megajoules m^{-2}: 2.470
Total Daily Incident Radiation, megajoules m^{-2}: 4.317
Suspended Dry Matter, mg l^{-1}: 38.4

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	1.33	1.63	(0.22)	0.69	(0.11)	0.80	(0.43)
25	<1		0.85	(0.41)				
12	<1		0.36	(0.29)				
1	<1		0.39	(0.14)				

Integral Net Primary Production, mg C m^{-2} h^{-1}: 0.9
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 6.3

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 01/11/79
Station No: 24
Surface Temperature, ^{o}C: 10.4
Incubation Temperature, ^{o}C: 15.0
Incubation Hours: 0950-1350
Incident Radiation During Incubation, megajoules m^{-2}: 6.482
Total Daily Incident Radiation, megajoules m^{-2}: 10.971
Suspended Dry Matter, mg l^{-1}: 28.3

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)
100	0	1.28	1.86	(1.35)	1.43	(0.07)	0.69
25	<1		1.36	(0.61)			
12	<1		0.40	(0.13)			
1	<1		0.22	(0.14)			

Integral Net Primary Production, mg C m^{-2} h^{-1}: 1.1
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 7.5

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 02/11/79

Station No: 25

Surface Temperature, ^{o}C: 10.8

Incubation Temperature, ^{o}C: 15.0

Incubation Hours: 0925-1325

Incident Radiation During Incubation, megajoules m^{-2}: 5.172

Total Daily Incident Radiation, megajoules m^{-2}: 8.979

Suspended Dry Matter, mg l^{-1}:

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	1.21	2.09	(0.31)	1.44	(0.10)	0.60	(0.13)
25	<1		0.88	(0.32)				
12	<1		0.59	(0.38)				
1	<1		0.29	(0.22)				

Integral Net Primary Production, mg C m^{-2} h^{-1}: 1.0

Integral Daily Primary Production, mg C m^{-2} day^{-1}: 6.9

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 16/02/80
Station No: BF 1
Surface Temperature, ^{o}C: 4.4
Incubation Temperature, ^{o}C: 7.0
Incubation Hours: 1040-1420
Incident Radiation During Incubation, megajoules m^{-2}: 2.470
Total Daily Incident Radiation, megajoules m^{-2}: 4.395
Suspended Dry Matter, mg l^{-1}: 6.8

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	0.50	1.94	(0.71)	1.15	(0.13)	3.83	(1.14)
25	4		0.67	(0.18)				
12	7		0.56	(0.53)				
1	10		0.77	(0.69)				

Integral Net Primary Production, mg C m^{-2} h^{-1}: 9.1
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 64.8

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 17/02/80
Station No: BF 15
Surface Temperature, ^{o}C: 1.2
Incubation Temperature, ^{o}C: 5.0
Incubation Hours: 1030-1430
Incident Radiation During Incubation, megajoules m^{-2}: 3.349
Total Daily Incident Radiation, megajoules m^{-2}: 4.772
Suspended Dry Matter, mg l^{-1}: 7.3

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	0.41	1.01	(0.16)	1.04	(0.29)	1.38	(0.11)
25	3		0.67	(0.21)				
12	4		0.54	(0.15)				
1	5		0.09	(0.08)				

Integral Net Primary Production, mg C m^{-2} h^{-1}: 3.4
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 19.4

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 18/02/80
Station No: 26
Surface Temperature, ^{o}C: -1.0
Incubation Temperature, ^{o}C: 6.0
Incubation Hours: 0930-1330
Incident Radiation During Incubation, megajoules m^{-2}: 4.186
Total Daily Incident Radiation, megajoules m^{-2}: 9.083
Suspended Dry Matter, mg l^{-1}: 56.0

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	0.98	1.27	(0.63)	1.71	(0.22)	2.18	(0.18)
25	<1		1.57	(0.44)				
12	<1		1.04	(0.24)				
1	<1		0.76	(0.42)				

Integral Net Primary Production, mg C m^{-2} h^{-1}: 1.3
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 11.3

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 19/02/80
Station No: 27
Surface Temperature, ^{o}C: 1.0
Incubation Temperature, ^{o}C: 6.0
Incubation Hours: 0940-1340
Incident Radiation During Incubation, megajoules m^{-2}: 5.609
Total Daily Incident Radiation, megajoules m^{-2}: 9.209
Suspended Dry Matter, mg l^{-1}: 505.4

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	1.96	2.00	(1.61)	2.81	(0.28)	3.03	(0.25)
25	<1		0.80	(0.75)				
12	<1		0.42	(0.73)				
1	<1		0.51	(0.88)				

Integral Net Primary Production, mg C m^{-2} h^{-1}: 1.0
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 6.6

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

PRIMARY PRODUCTION MEASUREMENTS - DECK INCUBATIONS

Date: 20/02/80
Station No: 28
Surface Temperature, ^{o}C: -1.0
Incubation Temperature, ^{o}C: 6.0
Incubation Hours: 0905-1305
Incident Radiation During Incubation, megajoules m^{-2}: 2.386
Total Daily Incident Radiation, megajoules m^{-2}: 4.144
Suspended Dry Matter, mg l^{-1}: 328.7

Percent Light Transmission	Corresponding Depth m	Chlorophyll a $\mu g\ l^{-1}$	Net Primary Production mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation mg C m^{-3} h^{-1} (standard deviation)		Dark Fixation (poisoned) mg C m^{-3} h^{-1} (standard deviation)	
100	0	2.38	1.47	(1.60)	4.85	(1.07)	2.78	(0.34)
25	<1		0.30	(0.52)				
12	<1		0.10	(0.17)				
1	<1		0					

Integral Net Primary Production, mg C m^{-2} h^{-1}: 0.5
Integral Daily Primary Production, mg C m^{-2} day^{-1}: 3.5

Note: In highly turbid water, 1 m is used as the depth of 1% transmission of photosynthetically active radiation in estimating integral production.

DATA TABLES - LIGHT SATURATION EXPERIMENTS AND DERIVED PARAMETERS

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 29/03/79
Station: BF 2
Surface Temperature, ^{o}C: 1-2
Incubation Temperature, ^{o}C: 6-8
Incubation Hours: 1100-1500
Chlorophyll a, mg m^{-3}: 0.45
Suspended Dry Matter, mg ℓ^{-1}: 1.1
Dark Uptake, mg C m^{-3} h^{-1}: 0.84
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.61

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
189.4	3.88		
13.7	1.99		
0.6	0.13		
0.2	0.09		
198.6	6.94		
53.5	5.02		
15.3	2.00		
4.6	1.20		
1.8	0.49		
0.9	0.44		
0.5	0.12		
0.1	0.24		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.17	0.15	0.19
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 3.89	3.73	4.05

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 29/03/79
Station: BF 6
Surface Temperature, ^{o}C: 1-2
Incubation Temperature, ^{o}C: 6-8
Incubation Hours: 2000-2400
Chlorophyll a, mg m^{-3}: 0.21
Suspended Dry Matter, mg ℓ^{-1}: 5.0
Dark Uptake, mg C m^{-3} h^{-1}: 1.04
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.61

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
189.4	3.86		
53.5	1.54		
13.7	0.95		
4.0	0.93		
1.5	0.02		
198.6	4.65		
15.3	1.20		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.04	0.02	0.06
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 3.99	3.39	4.19

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 30/03/79
Station: BF 14
Surface Temperature, ^{o}C: 1-2
Incubation Temperature, ^{o}C: 6-8
Incubation Hours: 0800-1200
Chlorophyll *a*, mg m^{-3}: 0.41
Suspended Dry Matter, mg ℓ^{-1}: 9.1
Dark Uptake, mg C m^{-3} h^{-1}: 0.73
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.74

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}
183.3	3.94	0.3	0.17
51.9	2.79	0.2	0.34
12.2	1.52	0.2	0.62
3.7	1.34		
0.6	0.03		
0.3	1.26		
0.2	0.18		
189.4	4.16		
15.3	2.36		
4.9	1.28		
1.5	0.72		
0.9	0.26		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl *a*)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.19	0.14	0.24
P_m^B mg C (mg Chl *a*)$^{-1}$ h^{-1}	: 3.55	3.17	3.93

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 30/03/79
Station: BF 16
Surface Temperature, ^{o}C: 2-3
Incubation Temperature, ^{o}C: 6-8
Incubation Hours: 1315-1715
Chlorophyll a, mg m^{-3}: 0.50
Suspended Dry Matter, mg ℓ^{-1}: 1.7
Dark Uptake, mg C m^{-3} h^{-1}: 1.09
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.67

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
152.8	4.06		
38.2	2.97		
13.7	1.74		
3.1	0.60		
168.0	4.38		
44.3	4.01		
15.3	1.00		
3.7	0.26		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.11	0.08	0.14
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 4.17	3.74	4.60

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 31/03/79
Station: 16
Surface Temperature, ^{o}C: 2-3
Incubation Temperature, ^{o}C: 6-8
Incubation Hours: 0820-1220
Chlorophyll a, mg m^{-3}: 0.30
Suspended Dry Matter, mg ℓ^{-1}: 24.7
Dark Uptake, mg C m^{-3} h^{-1}: 0.74
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.57

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
152.8	4.97	4.3	2.79
39.7	5.44	1.5	0.60
12.2	4.41	0.9	0.84
3.4	2.42	0.5	0.73
1.2	1.25	0.2	0.05
0.9	3.07	0.1	0.60
0.5	1.67		
0.2	0.12		
0.1	0.25		
152.8	11.60		
42.8	8.82		
13.7	3.52		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.92	0.63	1.21
P^{B}_{m} mg C (mg Chl a)$^{-1}$ h^{-1}	: 4.64	4.18	5.10

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 1/04/79
Station: 17
Surface Temperature, ^{o}C: 1-2
Incubation Temperature, ^{o}C: 6-8
Incubation Hours: 0900-1300
Chlorophyll a, mg m^{-3}: 1.03
Suspended Dry Matter, mg ℓ^{-1}: 174.3
Dark Uptake, mg C m^{-3} h^{-1}: 3.29
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 1.24

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
137.5	0.93		
48.9	0.56		
152.8	0.12		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: -	-	-
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: -	-	-

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 2/04/79
Station: 18
Surface Temperature, ^{o}C: 1.5
Incubation Temperature, ^{o}C: 6-8
Incubation Hours: 0930-1330
Chlorophyll *a*, mg m^{-3}: 1.88
Suspended Dry Matter, mg ℓ^{-1}: 99.3
Dark Uptake, mg C m^{-3} h^{-1}: 1.41
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 1.32

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}
106.9	0.90		
45.8	0.73		
152.8	1.13		
45.8	0.42		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl *a*)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: -	-	-
P_m^B mg C (mg Chl *a*)$^{-1}$ h^{-1}	: -	-	-

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 3/04/79
Station: 19
Surface Temperature, ^{o}C: 2.0
Incubation Temperature, ^{o}C: 6-8
Incubation Hours: 0900-1300
Chlorophyll a, mg m^{-3}: 1.93
Suspended Dry Matter, mg ℓ^{-1}: 72.5
Dark Uptake, mg C m^{-3} h^{-1}: 1.92
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 1.75

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
152.8	0.34		
152.8	0.79		
45.8	0.21		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: -	-	-
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: -	-	

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 11/08/79
Station: BF 1
Surface Temperature, ^{o}C: 11.0
Incubation Temperature, ^{o}C: 13.5
Incubation Hours: 1500-1900
Chlorophyll a, mg m^{-3}: 3.68
Suspended Dry Matter, mg ℓ^{-1}: 1.7
Dark Uptake, mg C m^{-3} h^{-1}: 1.5
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: -

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
259.7	0.69		
152.8	0.61		
91.7	0.48		
45.8	0.26		
33.6	0.21		
24.4	0.09		
18.3	0.07		
13.7	0.21		
290.2	0.80		
6.1	0.09		
4.7	0.04		
2.1	0.04		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.06	0.05	0.07
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 0.70	0.66	0.74

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 12/08/79
Station: BF 7
Surface Temperature, ^{o}C: 10.7
Incubation Temperature, ^{o}C: 12.0
Incubation Hours: 1130-1530
Chlorophyll a, mg m^{-3}: 0.61
Suspended Dry Matter, mg ℓ^{-1}: 1.2
Dark Uptake, mg C m^{-3} h^{-1}: 0.64
Dark Uptake (poisoned), mg C m^{-3} h^{-1}:

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
244.4	5.18	6.1	0.66
91.7	3.58	4.6	0.68
36.7	2.99	2.1	0.89
6.1	1.11	1.4	0.27
2.0	0.67	0.9	1.01
1.4	0.69		
1.1	0.40		
0.6	1.01		
290.2	5.50		
61.1	3.62		
30.6	2.16		
13.7	1.62		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.09	0.08	0.10
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 4.83	4.42	5.24

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 12/08/79
Station: BF 10
Surface Temperature, ^{o}C: 11.4
Incubation Temperature, ^{o}C: 12.0
Incubation Hours: 1615-2015
Chlorophyll a, mg m^{-3}: 0.89
Suspended Dry Matter, mg ℓ^{-1}: 1.2
Dark Uptake, mg C m^{-3} h^{-1}: 0.96
Dark Uptake (poisoned), mg C m^{-3} h^{-1}:

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
259.7	3.67	3.7	0.83
76.4	3.02	2.9	0.07
48.9	1.85	1.8	0.47
10.7	0.70	1.4	0.20
8.6	0.80	0.8	0.20
7.6	0.39		
5.2	0.37		
1.5	0.29		
0.8	0.27		
76.4	4.20		
29.0	2.66		
10.4	1.11		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.08	0.06	0.10
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 3.46	3.16	3.76

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 13/08/79
Station: 21
Surface Temperature, ^{o}C: 14.2
Incubation Temperature, ^{o}C: 14.0
Incubation Hours: 1100-1500
Chlorophyll a, mg m^{-3}: 1.11
Suspended Dry Matter, mg ℓ^{-1}: 9.0
Dark Uptake, mg C m^{-3} h^{-1}: 0.95
Dark Uptake (poisoned), mg C m^{-3} h^{-1}:

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
259.7	5.76	10.4	1.71
76.4	5.04	3.7	0.65
48.9	2.97	2.9	0.42
10.7	0.65	1.8	0.26
8.6	0.30	0.8	0.51
7.6	0.14		
5.2	0.23		
1.5	0.14		
0.8	0.09		
259.7	6.72		
76.4	5.70		
29.0	2.97		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	0.09	0.08	0.10
P_m^{β} mg C (mg Chl a)$^{-1}$ h^{-1}	5.89	5.54	6.23

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 13/08/79
Station: 20
Surface Temperature, ^{o}C: 18.4
Incubation Temperature, ^{o}C: 18.0
Incubation Hours: 1600-2000
Chlorophyll a, mg m^{-3}: 1.07
Suspended Dry Matter, mg ℓ^{-1}: -
Dark Uptake, mg C m^{-3} h^{-1}: 0.90
Dark Uptake (poisoned), mg C m^{-3} h^{-1}:

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
259.7	3.50		
76.4	3.01		
48.9	1.77		
10.7	0.77		
8.6	0.48		
257.7	4.89		
76.4	4.23		
29.0	4.02		
10.4	1.12		
3.7	0.36		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.16	0.05	0.27
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 3.71	2.82	4.60

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 14/08/79
Station: 20
Surface Temperature, ^{o}C: 17.0
Incubation Temperature, ^{o}C: 18.0
Incubation Hours: 1120-1520
Chlorophyll a, mg m^{-3}: 1.46
Suspended Dry Matter, mg ℓ^{-1}: 16.0
Dark Uptake, mg C m^{-3} h^{-1}: 1.18
Dark Uptake (poisoned), mg C m^{-3} h^{-1}:

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
259.7	5.38	2.9	0.12
76.4	3.96	1.8	0.16
10.7	0.26	1.4	0.07
8.6	0.75	0.8	0.80
7.6	0.25		
1.5	0.27		
0.8	0.19		
259.7	6.49		
76.4	5.09		
29.0	3.16		
10.4	0.81		
3.7	0.42		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.09	0.08	0.10
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 5.35	5.04	5.66

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 14/08/79
Station: 20
Surface Temperature, ^{o}C: 17.0
Incubation Temperature, ^{o}C: 18.0
Incubation Hours: 1630-2030
Chlorophyll a, mg m^{-3}: 1.96
Suspended Dry Matter, mg ℓ^{-1}: 28.9
Dark Uptake, mg C m^{-3} h^{-1}: 1.33
Dark Uptake (poisoned), mg C m^{-3} h^{-1}:

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
259.7	2.30	1.8	0.05
76.4	1.89		
10.7	0.02		
8.6	0.09		
5.2	0.02		
1.5	0.07		
0.8	0.31		
259.7	2.41		
76.4	2.27		
29.0	1.44		
10.4	0.15		
2.9	0.01		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.05	0.04	0.06
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 2.43	2.26	2.60

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 15/08/79
Station: 21
Surface Temperature, ^{o}C: 14.4
Incubation Temperature, ^{o}C: 17.5
Incubation Hours: 1115-1515
Chlorophyll a, mg m^{-3}: 1.09
Suspended Dry Matter, mg ℓ^{-1}: 4.1
Dark Uptake, mg C m^{-3} h^{-1}: 1.40
Dark Uptake (poisoned), mg C m^{-3} h^{-1}:

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
305.5	4.38	16.8	1.67
91.7	4.81	7.6	0.84
42.8	3.22	4.6	0.60
21.4	0.95	0.5	0.97
12.2	0.66		
5.5	1.58		
3.7	1.57		
2.4	0.49		
1.8	0.10		
274.9	4.61		
91.7	4.14		
52.0	1.77		
27.5	1.07		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.07	0.05	0.09
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 4.48	3.98	5.00

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 15/08/79
Station: 21
Surface Temperature, ^{o}C: 15.6
Incubation Temperature, ^{o}C: 17.5
Incubation Hours: 1615-2015
Chlorophyll a, mg m^{-3}: 0.79
Suspended Dry Matter, mg ℓ^{-1}: 5.0
Dark Uptake, mg C m^{-3} h^{-1}: 1.27
Dark Uptake (poisoned), mg C m^{-3} h^{-1}:

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
305.5	8.99	16.8	1.57
91.7	6.24	7.6	0.15
42.2	3.63	4.6	2.08
21.4	1.74	3.1	0.14
12.2	1.07	0.5	0.54
5.5	1.73		
3.7	1.40		
2.4	0.62		
279.4	8.72		
91.7	6.31		
58.0	3.26		
27.5	1.80		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.08	0.07	0.09
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 8.97	8.36	9.58

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 16/08/79
Station: 22
Surface Temperature, ^{o}C: 13.1
Incubation Temperature, ^{o}C: 15.0
Incubation Hours: 1120-1520
Chlorophyll a, mg m^{-3}: 1.00
Suspended Dry Matter, mg ℓ^{-1}: 2.3
Dark Uptake, mg C m^{-3} h^{-1}: 1.28
Dark Uptake (poisoned), mg C m^{-3} h^{-1}:

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
244.4	4.05	1.7	0.37
18.3	0.36	0.6	2.81
10.7	0.07		
6.7	0.69		
3.7	1.61		
3.1	2.57		
137.5	5.64		
45.8	4.40		
18.3	1.72		
7.3	0.89		
4.3	2.18		
2.3	0.32		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.10	0.03	0.17
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 4.15	3.07	5.23

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 16/08/79
Station: 22
Surface Temperature, ^{o}C: 14.2
Incubation Temperature, ^{o}C: 16.0
Incubation Hours: 1730-2130
Chlorophyll a, mg m^{-3}: 1.07
Suspended Dry Matter, mg ℓ^{-1}: 3.9
Dark Uptake, mg C m^{-3} h^{-1}: 1.20
Dark Uptake (poisoned), mg C m^{-3} h^{-1}:

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
244.4	4.03	1.8	0.34
18.3	0.78	0.6	1.06
6.7	0.02		
3.7	0.81		
3.1	1.55		
1.8	0.36		
137.5	5.20		
45.8	3.55		
18.3	2.21		
7.3	0.92		
4.3	1.22		
2.33	0.47		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.11	0.07	0.15
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 4.05	3.53	4.57

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 25/10/79
Station: PL 1
Surface Temperature, ^{o}C: 11.2
Incubation Temperature, ^{o}C: 12.5
Incubation Hours: 1100-1500
Chlorophyll a, mg m^{-3}: 1.14
Suspended Dry Matter, mg ℓ^{-1}: -
Dark Uptake, mg C m^{-3} h^{-1}: 0.95
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.85

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
73.3	0.93		
12.2	0.65		
171.1	0.50		
22.3	0.59		
10.1	0.10		
3.7	0.19		
2.9	0.13		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: -	-	-
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: -	-	-

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 26/10/79
Station: PL 1
Surface Temperature, ^{o}C: 11.3
Incubation Temperature, ^{o}C: 12.5
Incubation Hours: 0925-1325
Chlorophyll *a*, mg m^{-3}: 0.55
Suspended Dry Matter, mg ℓ^{-1}: -
Dark Uptake, mg C m^{-3} h^{-1}: 0.83
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.63

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}
73.3	3.02	1.4	0.69
26.0	1.87	0.8	0.38
12.2	1.44		
5.2	1.67		
3.1	0.88		
1.5	0.70		
0.8	0.69		
171.1	2.03		
58.0	1.91		
22.3	1.23		
10.1	1.09		
3.7	1.21		
2.9	0.22		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl *a*)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.31	0.11	0.51
P_m^B mg C (mg Chl *a*)$^{-1}$ h^{-1}	: 1.88	1.44	2.32

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 27/10/79
Station: PL 2
Surface Temperature, ^{o}C: 11.2
Incubation Temperature, ^{o}C: 12.5
Incubation Hours: 0900-1300
Chlorophyll a, mg m^{-3}: 0.49
Suspended Dry Matter, mg ℓ^{-1}: -
Dark Uptake, mg C m^{-3} h^{-1}: 0.83
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.71

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
134.4	3.69	4.6	0.73
45.8	2.27	3.1	0.15
21.4	1.81		
10.4	0.49		
6.1	0.68		
3.7	0.62		
1.8	0.67		
1.4	0 46		
158.9	3.33		
55.0	3.47		
22.0	1.35		
9.2	0.20		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.08	0.06	0.10
P^{B}_{m} mg C (mg Chl a)$^{-1}$ h^{-1}	3.57	3.26	3.88

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 27/10/79
Station: PL 3
Surface Temperature, ^{o}C: 11.2
Incubation Temperature, ^{o}C: 12.5
Incubation Hours: 1430-1830
Chlorophyll a, mg m^{-3}: 0.43
Suspended Dry Matter, mg ℓ^{-1}: -
Dark Uptake, mg C m^{-3} h^{-1}: 0.76
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.68

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
134.4	1.73		
45.8	1.47		
21.4	1.07		
10.1	0.29		
6.1	0.60		
158.9	2.17		
55.0	1.60		
22.0	0.89		
9.2	0.14		
4.6	0.04		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.05	0.04	0.06
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 1.83	1.64	2.02

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 28/10/79
Station: BF 5
Surface Temperature, ^{o}C: 10.9
Incubation Temperature, ^{o}C: 12.5
Incubation Hours: 1700-2100
Chlorophyll a, mg m^{-3}: 0.90
Suspended Dry Matter, mg ℓ^{-1}: 3.0
Dark Uptake, mg C m^{-3} h^{-1}: 0.61
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.59

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
134.4	2.05	3.1	0.16
45.8	2.03	2.0	0.14
21.4	0.94	1.2	0.04
10.4	0.84		
6.1	0.31		
1.8	0.20		
1.4	0.23		
158.9	1.58		
55.0	1.74		
22.0	0.88		
9.2	0.45		
4.6	0.40		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.06	0.05	0.07
p^{B}_{m} mg C (mg Chl a)$^{-1}$ h^{-1}	: 1.88	1.74	2.02

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 29/02/79
Station: BF 11
Surface Temperature, ^{o}C: 11.7
Incubation Temperature, ^{o}C: 12.5
Incubation Hours: 1730-2130
Chlorophyll *a*, mg m^{-3}: 0.76
Suspended Dry Matter, mg ℓ^{-1}: 2.1
Dark Uptake, mg C m^{-3} h^{-1}: 0.84
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.70

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}
191.6	1.41		
58.9	1.30		
11.8	0.14		
4.4	0.29		
200.4	0.11		
58.9	1.61		
21.4	0.53		
10.7	0.18		
5.5	0.33		
2.2	0.12		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl *a*)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.03	-	0.07
P_m^B mg C (mg Chl *a*)$^{-1}$ h^{-1}	: 1.04	0.64	1.44

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 30/10/79
Station: 23
Surface Temperature, ^{o}C: 11.8
Incubation Temperature, ^{o}C: 12.5
Incubation Hours: 0930-1330
Chlorophyll a, mg m^{-3}: 0.73
Suspended Dry Matter, mg ℓ^{-1}: -
Dark Uptake, mg C m^{-3} h^{-1}: 0.98
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.75

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
162.1	1.15		
23.6	0.59		
12.1	0.18		
171.1	0.62		
19.9	0.63		
3.4	0.08		
1.9	0.04		
1.2	0.08		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.03	0.02	0.04
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 0.91	0.73	1.09

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 30/10/79
Station: 23
Surface Temperature, ^{o}C: 11.5
Incubation Temperature, ^{o}C: 12.5
Incubation Hours: 1500-1900
Chlorophyll a, mg m^{-3}: 0.76
Suspended Dry Matter, mg ℓ^{-1}: -
Dark Uptake, mg C m^{-3} h^{-1}: 0.72
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.69

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
112.0	3.44	3.0	0.69
52.2	3.38	1.7	0.39
22.7	1.92	0.9	0.29
11.2	1.34		
5.7	0.96		
3.5	0.63		
2.1	0.38		
1.3	0.05		
153.3	2.33		
19.9	1.68		
9.8	1.13		
4.6	0.64		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.12	0.10	0.14
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 3.01	2.76	0.29

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 31/10/79
Station: 24
Surface Temperature, ^{o}C: 10.7
Incubation Temperature, ^{o}C: 12.0
Incubation Hours: 0900-1300
Chlorophyll a, mg m^{-3}: 1.32
Suspended Dry Matter, mg ℓ^{-1}: 33.7
Dark Uptake, mg C m^{-3} h^{-1}: 0.78
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.87

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
120.9	3.39	0.1	0.32
32.4	1.90		
10.3	1.14		
3.5	0.46		
1.3	0.51		
0.5	0.38		
97.3	2.87		
31.7	1.91		
9.9	1.37		
3.5	0.87		
1.4	0.34		
0.5	0.32		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.09	0.07	0.11
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 3.03	2.72	3.35

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 31/10/79
Station: 24
Surface Temperature, ^{o}C: 10.2
Incubation Temperature, ^{o}C: 12.0
Incubation Hours: 1445-1845
Chlorophyll a, mg m^{-3}: 3.79
Suspended Dry Matter, mg ℓ^{-1}: 250.2
Dark Uptake, mg C m^{-3} h^{-1}: 2.12
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 2.40

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
120.9	0.34		
32.4	0.09		
97.3	0.52		
31.7	0.40		

			90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	:	-	-	-
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	:	-	-	-

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 1/11/79
Station: 24
Surface Temperature, ^{o}C: 10.4
Incubation Temperature, ^{o}C: 12.0
Incubation Hours: 0850-1250
Chlorophyll a, mg m^{-3}: 1.45
Suspended Dry Matter, mg ℓ^{-1}: 39.1
Dark Uptake, mg C m^{-3} h^{-1}: 1.51
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 1.18

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
120.9	2.02		
32.4	0.15		
97.3	0.86		
31.7	0.16		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: -	-	-
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: -	-	-

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 1/11/79
Station: 24
Surface Temperature, ^{o}C: 9.9
Incubation Temperature, ^{o}C: 12.0
Incubation Hours: 1350-1750
Chlorophyll a, mg m^{-3}: 3.19
Suspended Dry Matter, mg ℓ^{-1}: 171.9
Dark Uptake, mg C m^{-3} h^{-1}: 2.03
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 2.28

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
91.7	0.34		
45.8	0.07		
97.8	0.50		
25.9	0.10		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: -	-	-
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: -	-	-

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 2/11/79
Station: 25
Surface Temperature, ^{o}C: 10.8
Incubation Temperature, ^{o}C: 12.5
Incubation Hours: 0850-1250
Chlorophyll a, mg m^{-3}: 1.20
Suspended Dry Matter, mg ℓ^{-1}: -
Dark Uptake, mg C m^{-3} h^{-1}: 1.86
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 1.69

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
91.7	0.67		
45.8	0.02		
97.8	0.38		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: -	-	-
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: -	-	-

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 2/11/79
Station: 25
Surface Temperature, ^{o}C: 9.3
Incubation Temperature, ^{o}C: 12.0
Incubation Hours: 1410-1810
Chlorophyll a, mg m^{-3}: 1.28
Suspended Dry Matter, mg ℓ^{-1}: -
Dark Uptake, mg C m^{-3} h^{-1}: 2.08
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 1.53

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
64.2	0.91		
78.5	0.48		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: -	-	-
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: -	-	-

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 16/02/80
Station: BF 1
Surface Temperature, ^{o}C: 4.4
Incubation Temperature, ^{o}C: 10.0
Incubation Hours: 110-1510
Chlorophyll *a*, mg m^{-3}: 0.47
Suspended Dry Matter, mg ℓ^{-1}: -
Dark Uptake, mg C m^{-3} h^{-1}: 1.00
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 1.01

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}
59.0	0.19		
8.8	0.12		
6.2	2.91		
4.7	2.68		
4.4	2.40		
206.4	1.52		
66.3	2.12		
10.3	1.23		
7.4	0.18		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl *a*)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: -	-	-
P_m^B mg C (mg Chl *a*)$^{-1}$ h^{-1}	: -	-	-

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 17/02/80
Station: 26
Surface Temperature, ^{o}C: -1.0
Incubation Temperature, ^{o}C: 7.5
Incubation Hours: 1820-2220
Chlorophyll a, mg m^{-3}: 0.77
Suspended Dry Matter, mg ℓ^{-1}: 85.4
Dark Uptake, mg C m^{-3} h^{-1}: 2.30
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 1.79

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
16.8	2.42		
4.3	1.00		
191.6	2.56		
47.2	3.48		
13.6	0.67		
0.9	0.64		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: -	-	-
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: -	-	-

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 17/02/80
Station: BF 14
Surface Temperature, ^{o}C: 1.6
Incubation Temperature, ^{o}C: 9.0
Incubation Hours: 1330-1730
Chlorophyll a, mg m^{-3}: 0.61
Suspended Dry Matter, mg ℓ^{-1}: 12.1
Dark Uptake, mg C m^{-3} h^{-1}: 1.26
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 0.93

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
103.2	2.55		
38.3	2.14		
14.7	0.46		
0.7	0.21		
250.6	1.76		
67.8	2.47		
32.4	1.41		
10.0	0.15		
4.1	0.26		

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 18/02/30
Station: 26
Surface Temperature, ^{o}C: -1.1
Incubation Temperature, ^{o}C: 5.5
Incubation Hours: 0830-1230
Chlorophyll a, mg m^{-3}: 0.98
Suspended Dry Matter, mg ℓ^{-1}: 71.1
Dark Uptake, mg C m^{-3} h^{-1}: 2.12
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 1.57

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
67.8	1.74		
18.6	1.24		
4.7	1.06		
0.3	0.43		
162.1	0.85		
33.9	1.40		
7.4	0.77		
2.7	0.13		
1.6	0.22		
0.1	0.03		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.16	0.07	0.25
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 1.31	1.03	1.59

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 18/02/80
Station: 27
Surface Temperature, ^{o}C: -1.1
Incubation Temperature, ^{o}C: 5.5
Incubation Hours: 1750-2150
Chlorophyll a, mg m^{-3}: 1.54
Suspended Dry Matter, mg ℓ^{-1}: -
Dark Uptake, mg C m^{-3} h^{-1}: 3.28
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 2.83

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
61.9	2.15		
18.3	1.37		
6.8	0.49		
3.2	0.52		
1.3	0.14		
0.4	0.56		
176.9	2.09		
45.7	1.27		
4.0	0.74		
1.4	0.40		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.11	0.05	0.17
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 1.84	1.54	2.14

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 19/02/80
Station: 27
Surface Temperature, ^{o}C: -1.0
Incubation Temperature, ^{o}C: 5.5
Incubation Hours: 0900-1300
Chlorophyll *a*, mg m^{-3}: 1.96
Suspended Dry Matter, mg ℓ^{-1}: 505.4
Dark Uptake, mg C m^{-3} h^{-1}: 3.00
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 2.75

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}
53.1	1.85		
14.4	1.28		
3.8	1.38		
0.8	1.03		
0.1	0.40		
117.9	1.82		
29.3	1.76		
6.5	0.50		
0.1	0.16		
0.1	0.15		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl *a*)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.20	0.03	0.32
P_m^B mg C (mg Chl *a*)$^{-1}$ h^{-1}	: 1.71	1.33	2.09

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 10/04/80
Station: PECKS COVE
Surface Temperature, ^{o}C: 2.0
Incubation Temperature, ^{o}C: 2.2
Incubation Hours: 1400-1800
Chlorophyll *a*, mg m^{-3}: 0.77
Suspended Dry Matter, mg ℓ^{-1}: 270.0
Dark Uptake, mg C m^{-3} h^{-1}: 2.53
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 5.92

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}
501.2	1.11		
294.8	2.18		
176.9	1.06		
79.6	2.44		
44.2	3.36		
24.5	4.16		
17.7	2.79		
11.8	1.29		
8.3	0.54		
6.2	0.75		
4.1	0.67		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl *a*)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.13	0.03	0.23
P_m^B mg C (mg Chl *a*)$^{-1}$ h^{-1}	: 1.11	0.65	1.57

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 7/05/80
Station: PECKS COVE
Surface Temperature, ^{o}C: 6.0
Incubation Temperature, ^{o}C: 4.0
Incubation Hours: 1400-1800
Chlorophyll a, mg m^{-3}: 2.06
Suspended Dry Matter, mg ℓ^{-1}: 150.0
Dark Uptake, mg C m^{-3} h^{-1}: 1.92
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 1.92

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
501.2	2.53	17.7	1.33
294.8	4.30	17.7	1.53
147.4	3.61	11.2	0.92
100.2	4.38	7.1	0.38
100.2	4.60	7.1	0.91
76.6	3.53	4.7	0.26
45.7	3.75	3.4	0.54
45.7	3.77	1.9	0.30
35.4	3.13	2.7	0.02
35.4	3.78	0.8	0.53
27.4	2.38		
27.4	2.68		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.11	0.09	0.13
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 2.62	2.48	2.76

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 19/06/80
Station: PECKS COVE
Surface Temperature, ^{o}C: 11.0
Incubation Temperature, ^{o}C: 6.0
Incubation Hours: 1400-1800
Chlorophyll *a*, mg m^{-3}: 3.36
Suspended Dry Matter, mg ℓ^{-1}: 170
Dark Uptake, mg C m^{-3} h^{-1}: 2.80
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 3.51

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}
663.3	3.58	26.5	2.84
663.3	3.85	16.2	1.84
324.3	6.33	16.2	1.99
324.3	6.16	10.6	1.45
224.0	6.69	6.8	1.06
224.0	7.37	3.5	0.39
118.0	7.20	2.1	0.64
118.0	6.64	1.2	0.17
107.6	6.58	0.9	0.27
107.6	5.38	0.6	1.48
44.2	5.55	0.4	0.39
44.2	4.50	0.2	0.22
26.5	2.39		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl *a*)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.14	0.12	0.16
P_m^B mg C (mg Chl *a*)$^{-1}$ h^{-1}	: 3.60	3.43	3.77

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 14/07/80
Station: PECKS COVE
Surface Temperature, ^{o}C: 15.0
Incubation Temperature, ^{o}C: 9.0
Incubation Hours: 1400-1800
Chlorophyll a, mg m^{-3}: 6.72
Suspended Dry Matter, mg ℓ^{-1}: 140
Dark Uptake, mg C m^{-3} h^{-1}: 2.50
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 1.83

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
550.0	1.80	6.0	0.75
294.0	2.67	6.0	0.58
44.0	3.02	4.0	0.64
44.0	2.09	3.0	0.38
24.0	2.58	2.4	0.45
24.0	2.56	1.8	0.10
17.0	2.84	1.5	0.16
17.0	2.56	1.3	0.24
11.0	1.85	0.6	0.16
11.0	1.60		
8.0	1.00		
8.0	0.93		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.18	0.16	0.20
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 1.95	1.85	2.05

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 1/08/80
Station: PECKS COVE
Surface Temperature, ^{o}C: 18.5
Incubation Temperature, ^{o}C: 10.2
Incubation Hours: 1400-1800
Chlorophyll a, mg m^{-3}: 50.7
Suspended Dry Matter, mg ℓ^{-1}: 2000
Dark Uptake, mg C m^{-3} h^{-1}: 3.35
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 3.76

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
641.6	0.28	4.1	0.03
143.6	0.15	4.1	0.03
82.5	0.21	0.9	0.05
30.6	0.12	0.2	0.04
21.4	0.11		
21.4	0.17		
20.4	0.16		
20.4	0.05		
16.2	0.06		
7.0	0.01		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.06	0.04	0.08
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 0.21	0.17	0.25

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 12/09/80

Station: PECKS COVE

Surface Temperature, ^{o}C: 20.0

Incubation Temperature, ^{o}C: 12.0

Incubation Hours: 1400-1800

Chlorophyll *a*, mg m^{-3}: 1.28

Suspended Dry Matter, mg ℓ^{-1}: 130

Dark Uptake, mg C m^{-3} h^{-1}: 3.34

Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 4.17

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl *a*)$^{-1}$ h^{-1}
707.5	7.53	13.0	1.94
280.0	9.78	13.0	2.41
191.6	9.72	10.0	1.53
85.5	10.62	10.0	2.27
48.6	11.49	8.0	2.82
38.3	7.85	8.0	1.38
38.3	8.94	5.9	4.28
28.6	11.06	5.9	1.37
28.6	8.81	5.0	1.73
24.2	4.20	4.0	1.70
24.2	7.80	3.2	1.88
14.7	2.77	3.0	1.69
14.7	5.58		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl *a*)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.31	0.24	0.38
P_m^B mg C (mg Chl *a*)$^{-1}$ h^{-1}	: 7.86	7.11	8.61

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 9/10/80
Station: PECKS COVE
Surface Temperature, ^{o}C: 17.1
Incubation Temperature, ^{o}C: 12.8
Incubation Hours: 1400-1800
Chlorophyll a, mg m^{-3}: 1.08
Suspended Dry Matter, mg ℓ^{-1}: 110
Dark Uptake, mg C m^{-3} h^{-1}: 2.76
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 2.31

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
707.5	2.37	13.0	0.76
280.0	5.21	10.0	3.07
191.6	4.21	10.0	1.85
85.5	3.85	8.0	1.45
48.6	4.70	8.0	0.51
38.3	4.02	5.9	0.65
38.3	4.65	5.9	0.11
28.6	2.74	5.0	1.31
28.6	3.56	4.0	2.71
24.2	2.60	3.2	1.77
14.7	3.26		
14.7	2.92		
13.0	1.76		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.21	0.06	0.36
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 2.36	1.56	3.16

PRIMARY PRODUCTION MEASUREMENTS - LIGHT SATURATION EXPERIMENTS

Date: 13/11/80
Station: PECKS COVE
Surface Temperature, ^{o}C: 5.5
Incubation Temperature, ^{o}C: 6.0
Incubation Hours: 1400-1800
Chlorophyll a, mg m^{-3}: 3.63
Suspended Dry Matter, mg ℓ^{-1}: 410
Dark Uptake, mg C m^{-3} h^{-1}: 4.56
Dark Uptake (poisoned), mg C m^{-3} h^{-1}: 5.83

Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}	Light Intensity Wm^{-2}	Specific Production mg C(mg Chl a)$^{-1}$ h^{-1}
586.9	1.17		
326.2	0.98		
163.3	1.29		
89.4	1.06		
63.0	1.49		
35.0	0.40		
35.0	0.81		
22.8	0.24		
13.3	0.66		
2.6	0.08		
0.6	0.28		

		90% Confidence Interval Lower	Upper
α mg C (mg Chl a)$^{-1}$ h^{-1} $(Wm^{-2})^{-1}$	: 0.02	0.01	0.03
P_m^B mg C (mg Chl a)$^{-1}$ h^{-1}	: 1.13	0.94	1.32